

Remarks

Claims 1-12 were pending in the application. Claims 8 and 12 have been withdrawn from consideration by the Examiner, and claims 1-7 and 9-11 were rejected. By this paper, applicants hereby affirm the election to prosecute claims 1-7 and 9-11. Furthermore, claim 11 has been amended, and reconsideration of the claims is respectfully requested. In addition, new claims 13-20 have been added.

Rejection Under 35 U.S.C. § 103

Claims 1-7 and 9-11 were rejected under §103(a) as being unpatentable over U.S. Patent No. 4,631,100 to Pellegrino and Japanese Patent Laid-Open No. 4-186731 in the name of Inaba et al. Claim 1 recites "forming a conductive layer on a substrate; etching the conductive layer to form a plurality of conductive traces; etching the conductive layer to form at least one mask feature; and removing substrate material that is not covered by the at least one mask feature so as to form at least one mechanical alignment feature." Thus, the same conductive layer is etched to form the conductive traces and the at least one mask feature.

Applicants respectfully believe that the combination of steps recited in claim 1 is not disclosed in any of the cited references, taken alone or in combination. As noted by the Examiner, Pelligrino '100 does not disclose forming "mechanical alignment features by removing material exposed through a mask." With respect to Inaba et al. '731, rather than disclosing etching the same conductive layer to form conductive traces and at least one mask feature, this reference discloses forming circuit-wiring pattern 2 and metal mask 3 from different layers disposed on opposite sides of substrate 1. Thus, the combination of Pelligrino '100 with Inaba et al. '731 falls short of the invention claimed in claim 1. Furthermore, Inaba et al. '731 teaches that metal mask 3 is completely removed after formation of hole 10. (See Figure 2 (4) and page 5 of the English translation of Inaba et al. '731, which is provided in an Information Disclosure Statement filed concurrently with this Amendment). Therefore, Inaba et al. '731 teaches away from using the same conductive layer to form conductive traces and at least one mask feature as claimed. For these reasons, Applicants respectfully believe that the § 103(a) rejection of claim 1 and the associated dependent claims is improper and should be withdrawn.

With respect to claim 6, Applicants respectfully request that the Examiner cite a reference showing an alignment tab. An example of an alignment tab according to the invention is disclosed in Figures 23 and 24.

With respect to claim 9, this claim recites "forming a conductive layer on a substrate; etching the conductive layer to form multiple conductive traces; etching the conductive layer to form multiple mask features that cooperate to define a template; and ablating with a laser substrate material that is not covered by the template so as to form a plurality of mechanical alignment features." For the reasons discussed above with respect to claim 1, claim 9 is also believed to be allowable.

Furthermore, because claims 10 and 11 depend from claim 9, these claims are also believed to be allowable. Claim 11 has been amended, however, to address an informality. More specifically, "a" has been deleted from line 2 of this claim.

New Claims

New claims 13-20 have been added to recite additional aspects of applicants invention. Support for these claims may be found, for example, on page 12 of the application, lines 18-25, and Figures 5, 6, 23 and 24.


Conclusion

Applicants have made a genuine effort to respond to each of the Examiner's objections and rejections in advancing the prosecution of this case. Applicants believe that all formal and substantive requirements for patentability have been met and that this case is in condition for allowance, which action is respectfully requested. If any additional issues need to be resolved, the Examiner is invited to contact the undersigned at her earliest convenience.

Applicants do not believe that any additional fee is due as a result of the filing of this paper. The Commissioner is hereby authorized, however, to charge any additional fees to our Deposit Account No. 02-3978 -- a duplicate of this paper is enclosed for that purpose.

Respectfully submitted,

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Attachment



VERSION WITH MARKINGS TO SHOW CHANGES MADE

11. (Amended) The method of claim 9 wherein the ablating step comprises ablating substrate material so as to form [a] multiple apertures and multiple side edges, wherein the apertures and the side edges function as mechanical alignment features.